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JULY, 1987

VOL. 5 NO. 9

A PUBLICATION OF THE INFORMATION CENTER BUREAU
MONTANA DEPARTMENT OF ADMINISTRATION
INFORMATION SERVICES DIVISION

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DEADHEAD

Information Services Division Announces
New Fiscal Year 1988 Rates

Fiscal Year 1988 Rates

Information Services Division has announced the new rates for fiscal year 1988 and upgrades to the billing process. Changes include:

- Separation of the Machine Unit Second (MUS) unit of measure into its distinct components:
 - CPU Seconds - a measure of the time a program executes in main memory;
 - EXCP (EXecute Channel Program) - a measure of input/output activity;
 - Lines Printed - a measure of print activity.
- Addition of a rate for tape mounts.
- Significant decreases in computer processing rates, CPU seconds and EXCPs.
- Increases in monthly data network charges.
- Consolidation and decreases in disk storage rates.
- Non-prime time rates discounted at 33% instead of 50%.
- Addition of an Information Center Subscription rate.
- Increase in charges for data entry, text entry and I/O Control.

In order to make the transition to the new rate structure, ISD has revised its billing system. The changes which will be most apparent include a new invoice and new step/job termination statistics for batch jobs. Behind the scenes, a new billing database will provide expanded opportunities to analyze and manage the cost and usage of ISD services. The intent of all these changes has been to ensure the equitable distribution of the cost for using ISD services, today and in the future. For a copy of the complete rate schedule call 444-2860, or contact Al Tompkins at 444-2700.

Information Center Services

Effective July 1, 1987 there are 3 ways of getting microcomputer assistance from the Information Center. They are listed below with their fundamental differences.

1. Full agency subscription.

Under this option an agency would pay a fixed monthly fee for all personal computers (pc's) in the agency. This would typically be figured at 50 - 100% of the total number of personal computers (depending on the level of support expected by agency and Information Center staff) times a \$20/month subscription fee. Most agency's data processing budgets for FY88 and FY89 were adjusted to include some or all of this amount. This subscription entitles an agency to the following benefits.

- A. Unlimited on-site support and problem resolution. The Information Center staff will continue to provide on-site help for problems and installations for any subscribing agency in Helena. Trips out of Helena will be negotiated with the agency if they become frequent or if the ICB budget becomes limited for travel. The Information Center will log all problems and assist the agency in tracking them until they are resolved.
- B. Unlimited use of Disoss (electronic mail) and Personal Manager (calendering) on the host computer is available for each paid subscription. For example, if an agency is paying 20 subscriptions for 30 pc's, they will get support for all devices, but they may only place 20 of the pc's on Disoss. All charges for electronic mail and calendering are covered, however storage space for the document library facility of Disoss is not included.
- C. Personnel attending ISD microcomputer training classes would receive a discount. Subscribing agencies would pay \$40/day. (Current rates are \$50 per day. Non-subscribers will pay \$60/day.) This same percentage applies to all microcomputer related courses.

- D. Equipment pool discounts. Below is a table of equipment pool devices and their current and proposed rates (quoted by the month, although they may be available for lesser periods of time).

<u>Device</u>	<u>Subscriber</u>	<u>Non-subscriber</u>
Pc's	\$100	\$200
Proprinters	\$ 10 (free w/pc)	\$20
Quietwriters	\$ 40	\$60
3178	\$ 40	\$60
Portable projector	\$100	\$200
(free to subscribers up to 5 days per month)		
Training Room Rental	\$ 25	\$100
(per day)		

- E. On a time available basis, the Information Center will provide ad hoc application development on micro-computers or micro-mainframe links at \$25.00 per hour.
- F. The Information Center will exchange, free of charge, one copy of WordPerfect for any other word processing package an agency currently owns until January 1, 1988. From January 1, 1988 to July 1, 1988 the cost of this exchange will be one-half of the selling price. No exchanges will be offered after FY88. Use of this option is at the agency's discretion and is limited to the actual number of subscriptions paid (like the Disoss use limitation). This will help individual agencies and the state standardize on one word processing system for electronic document exchange both now and in the future.

2. Individual Personal Computer and Terminal Subscription.

Under this option an agency would pay \$20/month to subscribe an individual personal computer to Information Center support and electronic mail and calendaring use; or \$10 for terminal access to Personal Manager calendaring only.

- A. Continued on-site, unlimited assistance for that pc only. No out of Helena travel.
- B. Unlimited use of Disoss and Personal Manager as defined above.
- C. Training discounts which apply only to electronic mail and calendaring related courses such as Disoss, word processing and Personal Manager. Discounts also apply only to staff using that personal computer or terminal for electronic mail related functions.

- D. No equipment pool discount.
- E. No development discount.
- F. The same word processing exchange offer is available to individual pc subscribers as to agency subscriptions. It is limited to the word processor on that pc.

3. No subscription.

- A. For agencies that do not subscribe, free telephone assistance will be available, and up to 2 hours of free assistance per problem will be provided. Assistance in a particular area beyond 2 hours or on-site will be billed at \$32.00/hour, except for word processing trouble shooting which will be billed at \$20.00 per hour.
- B. No use of central electronic mail and calendaring will be allowed (Disoss and Personal Manager).
- C. Agencies that do not subscribe would pay \$60/day for all microcomputer courses.
- D. No equipment pool discount. See the rates above for equipment pool prices.
- E. Agencies not subscribing will pay \$32.00 per hour for ad hoc application development on microcomputers and micro-mainframe links. Their applications will generally be a lower priority than those of subscribers.
- F. No word processing package exchange will be offered.

The following services are not affected by the subscription plan.

- A. All mainframe support services.
- B. All mainframe and non-pc related training courses.
- C. All public access and dialup support of the mainframe whether from a personal computer or not.
- D. All ad hoc mainframe development remains \$32.00/hour.
- E. All agency planning and purchasing support remains free (including automation studies).
- F. All text unit production text service (typing and conversion) is \$20.00/hour.
- G. All computer based training (CBT) training remains free.

For more information on the subscription, contact Dave Marshall at 444-2920.

Maintenance options on IBM's Personal System/2's

Maintenance options on IBM's Personal System/2's are different than IBM's previous line of Personal Computers (XT's & AT's). Below is a list of maintenance options and prices on some of the newly announced products.

PERSONAL SYSTEM/2's

<u>ITEM</u>	<u>ANNUAL IBM ON-SITE REPAIR</u>	<u>ANNUAL IBM ON-SITE EXCHANGE</u>	<u>ANNUAL CUSTOMER ON-SITE EXCHANGE</u>	<u>ANNUAL CARRY IN EXCHANGE</u>	<u>ANNUAL CARRY IN REPAIR</u>
8530-002	\$115	N/A	N/A	N/A	N/A
8530-021	\$160	N/A	N/A	N/A	N/A
8550-021	\$180	N/A	N/A	N/A	N/A
8560-041	\$190	N/A	N/A	N/A	N/A
8560-071	\$210	N/A	N/A	N/A	N/A
8580-041	\$220	N/A	N/A	N/A	N/A
8580-071	\$260	N/A	N/A	N/A	N/A
8580-111	\$305	N/A	N/A	N/A	N/A

PERSONAL SYSTEM/2 DISPLAY's

8503	N/A	\$9	\$8	N/A	N/A
8512	N/A	\$10	\$9	N/A	N/A
8513	N/A	\$11	\$10	N/A	N/A
8514	N/A	\$46	\$44	N/A	N/A

PRINTERS

5202-001 QuietWriter III	\$200	N/A	N/A	N/A	\$130
4207-001 Proprinter X24	\$102	N/A	N/A	N/A	\$85
4208-001 Proprinter XL24	\$122	N/A	N/A	N/A	\$101
4216-020 Personal Pageprinter	\$324	N/A	N/A	N/A	\$252

WordPerfect Corrections Available

Two problems have been discovered with WordPerfect 4.2. One problem happens only while running the speller on the network. The machine locks up and if your document has not been saved, the document is lost. The other problem is a "Divide Overflow" which happens on both network and stand-alone versions of WordPerfect. WordPerfect is sending us new disks free of charge to correct these problems. WordPerfect users should call Gale at 444-2974 to get your new disks.

Network Problem Response

If you place a call to the Network Control Center and an unfamiliar voice answers the phone, please don't be alarmed. On June 1 of this year, the Computer Operations Unit took over the first-level problem solving duties for the teleprocessing network. This change should provide enhanced user assistance in the area of network problem solving. Trouble calls formerly routed to the Network Control Center are now answered by Computer Operations. Problems that cannot be solved quickly by operations personnel will be transferred back to the Network Control Center. Please continue to use the same phone numbers for your network related problems, and please no personal calls on these lines. The numbers to call for your teleprocessing problems are:

444-2595 (Helena)
800-628-4917 (outside Helena)

 * UPCOMING CLASSES *

State Data Network Classes

Jul 27-29	SAS & SAS JCL
Aug 12	Basic Terminal Skills
Aug 13-21	Culprit for End Users
Sep 1 (p.m.)	State Computer System Orientation (FREE)

Microcomputer Classes

Jul 8 (a.m.)	Telephone Training
Jul 13, 14	Beginning Microcomputer Skills
Jul 15-16	Introduction to Lotus 1-2-3
Jul 16	Personal Services/PC
Jul 17	Personal Manager
Jul 20-21	Introduction to WordPerfect
Jul 22-23	Intermediate RBase
Jul 24	Administering the IBM Token Ring
Jul 30	PFS:Professional File
Aug 3,4	Beginning Microcomputer Skills
Aug 5-6	Introduction to Lotus 1-2-3
Aug 6 (p.m.)	DW4 Transition
Aug 7	Intermediate DOS
Aug 10-11	Introduction to WordPerfect
Aug 11 (p.m.)	Personal Manager
Aug 25-26	Advanced WordPerfect
Aug 27-28	Advanced Lotus 1-2-3
Aug 28 (p.m.)	Personal Services/PC
Sep 2	Telephone Training
Sep 8	Introduction to Displaywrite 4
Sep 10, 11	Beginning Microcomputer Skills
Sep 14	Microcomputer Database Concepts & Design
Sep 15-16	Introduction to WordPerfect
Sep 16 (p.m.)	Macro Feature of Lotus 1-2-3
Sep 17-18	Introduction to Lotus 1-2-3
Sep 21	Spreadsheet Design and Documentation
Sep 23	Freelance
Sep 24-25	Beginning R:Base System V
Sep 28	Fundamentals of DOS

TRAINING SCHEDULE

STATE DATA NETWORK CLASSES

USING PERSONAL SERVICES/PC (PS/PC): presented by Jeanette
Rushford of the Information Center

DATE: July 16, 1987
Aug 28, 1987
TIME: 1:30 pm to 4:00 pm
PLACE: Room 25, Mitchell Building
COST: \$30.00
LIMIT: 10
PREREQUISITE: Beginning Microcomputer Skills and
experience with either WordPerfect or
Displaywrite 3

PS/PC allows you to electronically send and receive messages or files. A document created by either WordPerfect or Displaywrite 3 can be distributed to any other person also using PS/PC by going through DISOSS on the state's mainframe.

To use PS/PC you must have the Personal Services/PC software, the IBM PC 3270 Emulation Program and adapter, and a coaxial cable or phone line connecting your PC to the mainframe.

PERSONAL MANAGER (PM): presented by Teri Lundberg of the
Information Center

DATE: July 17, 1987
Aug 11, 1987
TIME: 1:30 pm to 3:30 pm
PLACE: Room 25, Mitchell Building
COST: \$30.00
LIMIT: 10
PREREQUISITE: Beginning Microcomputer Skills or Basic
Terminal Skills

Personal Manager is a calendaring product available to anyone who can establish a session with the mainframe. It is used for scheduling meetings (for yourself and others), reserving resources like conference rooms and even taking telephone messages.

BASIC TERMINAL SKILLS: presented by Gary Wulf of the
Information Center

DATE: Aug 12, 1987
TIME: 8:30 a.m. to 4:00 p.m.
PLACE: Room 25, Mitchell Building
COST: \$50.00
LIMIT: 8
PREREQUISITE: 3270nd (interactive class on terminal
operation)

BASIC TERMINAL SKILLS is a hands-on workshop to provide experience using computer terminals and the SPF editor. The SPF editor is an easy-to-learn menu used to enter data and programs into the State of Montana central computer system. Entering data, changing data and submitting programs for execution are covered in detail. Also covered are SPF's utility functions and how to track job output. This course is essential for state government personnel using terminals tied into the State of Montana central computer. This course is a prerequisite for many other ISD classes.

SAS & SAS JCL: presented by Gary Wulf of the Information Center.

DATE: July 27 through July 29, 1987
TIME: 8:30 a.m. to 4:30 p.m. each day
PLACE: Room 25, Mitchell Building
COST: \$150.00
LIMIT: 10
PREREQUISITE: Basic Terminal Skills

Though SAS stands for Statistical Analysis System, it has a fully featured programming language useful for applications which are not strictly statistical as well. This class will cover the SAS language in both online and batch environments and for statistical and general applications. The first half day will be devoted to IBM Job Control Language (JCL) as needed by SAS programs. If you have taken our JCL course, attendance during this section is not necessary, but please let us know when registering.

STATE COMPUTER SYSTEM ORIENTATION: presented by Gary Wulf of the
Information Center

DATE: Sep 1, 1987
TIME: 1:30 p.m. to 3:30 p.m.
PLACE: Room 25, Mitchell Bldg.
COST: FREE
LIMIT: 12
PREREQUISITE: None

Introduces the State Data Center's services and capabilities. Includes an overview of ISD's organization, hardware, software, and communications network. A tour of the computer center is included.

CULPRIT FOR END-USERS: presented by Randy Holm of the
Information Center

DATE: August 13, 14, 17-21
TIME: 8:30 am to 4:30 pm each day except 8:30
am to noon on August 14 and August 19
COST: \$250.00
LIMIT: 10
PREREQUISITE: Basic Terminal Skills including SPF
experience, JCL helpful but optional

This class is designed for those who are not programmers but need to generate reports from existing databases or standard files. CULPRIT programming will be taught using lecture, videos, and programming exercises. Manuals will be included.

MICROCOMPUTER CLASSES

BEGINNING MICROCOMPUTER SKILLS: presented by the staff of the Information Center

DATE: (one day only) Jul 13, 1987
Jul 14, 1987
Aug 3, 1987
Aug 4, 1987
Sep 10, 1987
Sep 11, 1987
TIME: 8:30 a.m. to 4:30 p.m.
PLACE: Room 25, Mitchell Building
NON-SUBSCRIBER COST: \$60.00
SUBSCRIBER COST: \$40.00
LIMIT: 10
PREREQUISITE: None

This course will give participants brief hands-on experience with microcomputers. Topics to be covered:

- The machine
- The operating system
- Word processing
- Spreadsheets and graphics
- File management
- Communications

All class time will be spent using microcomputers and software. The participant will learn what microcomputers can do and how to approach them with a positive attitude. This course or its equivalent is a prerequisite for other microcomputer courses.

ADMINISTERING THE IBM TOKEN RING NETWORK: presented by Ron Heilman of the Information Center

DATE: July 24, 1987
TIME: 8:30 am to 4:30 pm
PLACE: Room 25, Mitchell Building
NON-SUBSCRIBER COST: \$60.00
SUBSCRIBER COST: \$40.00
LIMIT: 10
PREREQUISITE: Beginning Micro Skills and Token Ring user

This class is for those responsible for managing and administering the IBM Token Ring Local Area Network. The main topics to be covered are:

- The NET START statement and its parameters
- Different network configurations
- Defining the network as a communications gateway
- Network limitations

NOTE: This class is not intended for the casual network user. If you have any questions on the prerequisites or the class itself, contact Ron Heilman at 444-2924.

FUNDAMENTALS OF DOS: presented by Gale Kramlick of the Information Center

DATE: Sep 28, 1987
TIME: 8:30 a.m. to 4:30
PLACE: Room 25, Mitchell Building
NON-SUBSCRIBER COST: \$60.00
SUBSCRIBER COST: \$40.00
LIMIT: 10
PREREQUISITE: Beginning Micro Skills and/or 3 months micro experience

FUNDAMENTALS OF DOS is intended for microcomputer users who need to know more about controlling their microcomputer through its operating system. Programming experience is NOT required.

Topics to be covered include:

What is DOS? Why is it necessary to know about it?

DOS names for peripherals

File naming

The CONFIG.SYS file

Internal commands - DIR, ERASE, RENAME, TYPE, COPY and their variations

External commands - FORMAT, SYS, DISKCOPY, CHKDSK, MODE

How to interpret batch files

Backup procedures

INTERMEDIATE DOS: presented by Brett McAlister of the Information Center

DATE: Aug 7, 1987
TIME: 8:30 am to 4:30 pm
PLACE: Room 25, Mitchell Building
NON-SUBSCRIBER COST: \$60.00
SUBSCRIBER COST: \$40.00
LIMIT: 10
PREREQUISITE: Fundamentals of DOS or appropriate experience

This class is designed to follow the Information Center's "Fundamentals of DOS" class. It is not designed for programmers and does not intend to teach all the advanced features of the operating system.

The topics that are covered in "Intermediate DOS" are:

ATTRIB	MODE
DISKCOMP	SELECT
REPLACE	LABEL
JOIN	XCOPY

Other features of the Disk Operating System that will be discussed are:

Filters (FIND, MORE)
Batch File Creation (EDLIN, Batch file commands)

If you have any questions, please contact Brett McAlister at 444-2044.

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GRAPHICS CLASSES

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FREELANCE: presented by Gary Wulf of the Information Center

DATE:	September 23, 1987
TIME:	8:30 am to 4:30 pm
PLACE:	Room 25, Mitchell Building
NON-SUBSCRIBER COST:	\$60.00
SUBSCRIBER COST:	\$40.00
LIMIT:	10
PREREQUISITE:	Beginning Microcomputer Skills

This class will give participants hands-on experience:

1. Using Freelance to create and enhance business graphs with Freelance's extensive freehand capabilities
2. Importing data from Lotus 1-2-3 and dBase to create graphs
3. Importing Lotus graphs into Freelance for enhancement.

Time permitting, general graphics design techniques will be discussed.

=====

WORD PROCESSING CLASSES

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INTRODUCTION TO WORDPERFECT: presented by Melanie Liston of the
Information Center

DATE: Sep 15 and 16, 1987
TIME: 8:30 am to 3:30 pm on first day
8:30 am to noon on second day
PLACE: Room 25, Mitchell Building
NON-SUBSCRIBER COST: \$90.00
SUBSCRIBER COST: \$60.00
LIMIT: 10
PREREQUISITE: Beginning Microcomputer Skills

This course is intended for anyone interested in learning the basics of WordPerfect. This class will concentrate on text creation, use of function keys, editing, formatting, printing, filing, and retrieving documents. Merging documents, macro creation, block functions and use of the spell checker are also covered.

ADVANCED FEATURES OF WORDPERFECT: presented by Gale Kramlick of
the Information Center

DATE: August 25 and 26, 1987
TIME: 1:00 pm to 4:30 pm on first day
8:30 am to 3:30 pm on second day
PLACE: Room 25, Mitchell Building
NON-SUBSCRIBER COST: \$90.00
SUBSCRIBER COST: \$60.00
LIMIT: 10
PREREQUISITE: Beginning Microcomputer Skills and
Introduction to WordPerfect

For those already using WordPerfect, the advanced class will cover footnotes, column generation, document preview, advanced macros, advanced merging, and outlining. Math functions, sorting capabilities and dual document editing are also covered.

DW4 TRANSITION CLASS: presented by Gale Kramlick of the
Information Center

DATE: August 6, 1987
TIME: 1:00-4:00 p.m.
PLACE: Room 25, Mitchell Building
NON-SUBSCRIBER COST: \$40.00
SUBSCRIBER COST: \$30.00
LIMIT: 10
PREREQUISITE: Introduction to DisplayWrite 3 or
equivalent

For those already using DisplayWrite 3, this class will cover the differences between DisplayWrite 3 and DisplayWrite 4 and furnish hands-on exercises demonstrating the new features.

INTRODUCTION TO DISPLAYWRITE 4: presented by Gale Kramlick of the Information Center

DATE: September 8, 1987
TIME: 8:30 am to 4:30 pm
PLACE: Room 25, Mitchell Building
COST: \$40/\$60
LIMIT: 10
PREREQUISITE: Beginning Microcomputer Skills or equivalent

DisplayWrite 4 is IBM's microcomputer word processing package. This course will introduce the student to DW4's comprehensive menu structure, cover the basics of creating, revising, paginating and printing documents. Block functions, document formatting and use of the spell checker are also covered.

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SPREADSHEET CLASSES

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INTRODUCTION TO LOTUS 1-2-3: presented by Brett McAlister of the Information Center

DATE: Aug 5 and 6, 1987
Sep 17 and 18, 1987
TIME: 8:30 am to 3:30 pm on the first day
8:30 am to 12:00 noon the second day
PLACE: Room 25, Mitchell Building
NON-SUBSCRIBER COST: \$90.00
SUBSCRIBER COST: \$60.00
LIMIT: 10
PREREQUISITE: Beginning Microcomputer Skills

This course is designed for anyone with little or no previous 1-2-3 or microcomputing experience.

INTRODUCTION TO LOTUS 1-2-3 will concentrate on 1-2-3 spreadsheet creation and editing. Building formulas, using functions, formatting information, the 1-2-3 command structure and the creation of graphics is covered. Printing spreadsheets and graphs is also included. The more advanced features such as macro programming and database commands are covered in other classes.

Class format consists of lecture and hands-on practice followed by lab time on actual agency spreadsheets for further experience.

ADVANCED FEATURES OF LOTUS 1-2-3: presented by Brett McAlister
of the Information Center

DATE: Aug 27 and 28, 1987
TIME: 8:30 am to 4:30 pm on first day
8:30 am to 12 noon on second day
PLACE: Room 25, Mitchell Building
NON-SUBSCRIBER COST: \$90.00
SUBSCRIBER COST: \$60.00
LIMIT: 10
PREREQUISITE: Introduction to Lotus 1-2-3 and Beginning
Microcomputer Skills

This course is designed for anyone who is using 1-2-3 for basic spreadsheet work. Features not covered in the introductory class will be included (e.g. protection status, range names, combining files, etc). Advanced features such as one and two-way sensitivity analysis tables and database commands will be covered in detail.

Class consists of lecture, hands-on practice, lab work or question and answer period if time permits.

MACRO FEATURE OF LOTUS 1-2-3: presented by Brett McAlister of
the Information Center

DATE: Sep 16, 1987
TIME: 1:00 pm to 4:30 pm
PLACE: Room 25, Mitchell Building
NON-SUBSCRIBER COST: \$40.00
SUBSCRIBER COST: \$30.00
LIMIT: 10
PREREQUISITE: Intro to Lotus (OA12) or equivalent
experience

The macro programming capabilities of 1-2-3 can help you automate 1-2-3 tasks, saving time and keystrokes. A macro is a sequence of keystrokes and commands stored in your worksheet for execution when desired.

This class is for 1-2-3 users who have no previous macro experience. Through lecture, video and hands-on practice, participants will learn to write and document timesaving macros.

SPREADSHEET DESIGN AND DOCUMENTATION: presented by Ron Heilman
of the Information Center

DATE: Sep 21, 1987
TIME: 8:30 am to 4:30 pm
PLACE: Room 25, Mitchell Building
NON-SUBSCRIBER COST: \$60.00
SUBSCRIBER COST: \$40.00
LIMIT: 10
PREREQUISITE: Introduction to Lotus 1-2-3 (OA02)

This class will emphasize the importance, effectiveness and the organizational benefits of good spreadsheet design and documentation. The Lotus 1-2-3 spreadsheet program will be used to demonstrate good and bad techniques. Some methods to track down common mistakes and logic problems will be covered.

Students should have previous spreadsheet experience. A general knowledge spreadsheet applications and concepts is required. Minimum requirements can be met by completing the "Introduction to Lotus 1-2-3" class. Students are not required to be 1-2-3 users, however, if this is the case, or if you are not sure if you meet the minimum requirements, please call Ron at 444-2924.

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COMMUNICATIONS CLASS

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TELEPHONE STATION USER TRAINING: presented by LaVelle Brannin

DATE: July 8, 1987
Sep 2, 1987
TIME: 8:30 a.m. to 10:00 a.m.
10:30 a.m. to noon
PLACE: Room 25, Mitchell Building
COST: FREE
LIMIT: 10
PREREQUISITE: none

This class is designed to familiarize new employees or refresh current employees with the features and use of the state telephone system. Also discussed will be the different calling capabilities available and the dialing plan.

This is an interactive class combining demonstrations and hands on usage of the features and the dialing plan.

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DATABASE CLASSES

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MICROCOMPUTER DATABASE CONCEPTS AND DESIGN: presented by Randy Holm of the Information Center

DATE: Sep 14, 1987
TIME: 8:30 am to 4:30 pm
PLACE: Room 25, Mitchell Building
NON-SUBSCRIBER COST: \$60.00
SUBSCRIBER COST: \$40.00
LIMIT: 10
PREREQUISITE: Beginning Microcomputer Skills

This class is designed to give participants a primary understanding of what a relational database is and how it compares to other products like Lotus 1-2-3 and PFS:Professional File. The class teaches database design techniques and is a prerequisite for other database classes offered by the Information Center.

INTERMEDIATE R:BASE SYSTEM V: presented by Randy Holm of the Information Center

DATE: July 22 and 23, 1987
TIME: 8:30 am to 4:30 pm each day
PLACE: Room 25, Mitchell Building
NON-SUBSCRIBER COST: \$120.00
SUBSCRIBER COST: \$80.00
LIMIT: 10
PREREQUISITE: Beginning R:Base System V

This class will expand on what was covered in the beginning R:base class. Topics covered include sophisticated forms and reports, multi-table operations, database maintenance, and R:base commands and functions. An overview of custom code and macros will be given to demonstrate the programming capabilities of R:base, but emphasis will be on simple enhancements to Application Express rather than programming from scratch.

INTRODUCTION TO PFS:PROFESSIONAL FILE: presented by Brett
McAlister of the Information Center

DATE: July 30, 1987
TIME: 8:30 am to 2:30 pm
PLACE: Room 25, Mitchell Building
NON-SUBSCRIBER COST: \$60.00
SUBSCRIBER COST: \$40.00
LIMIT: 10
PREREQUISITE: Beginning Micro Skills

The PFS:Professional file software is an easy to use file management system. It is a recent software package that replaces PFS:File and PFS:Report.

This course will give the participant hands-on experience creating databases demonstrating the flexibility of this software in storing, retrieving, and updating a large amount of related information.

The related report generation software will be used to create columnar reports from your files.

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COMPUTER BASED TRAINING

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The following free tutorials are available in the Computer Based Training Lab located in Room 24 of the Mitchell Building. The tutorials are either diskette or video-based. All are designed for individual study and self-pacing. Tutorials available in the CBT lab include:

- Using Displaywrite 3
- Disk Operating System (DOS)
- Intro to Lotus 1-2-3
- Macro Programming & Advanced Lotus 1-2-3
- Typing Instructor
- Teach Yourself WordPerfect
- The Instructor (microcomputers systems)
- Turbo Pascal Tutor

Call Gale in the Information Center at 444-2974 to reserve time in the lab or to check out the tutorials.

FULL CLASS FEE WILL BE BILLED TO THE REGISTRANT UNLESS
CANCELLATIONS ARE MADE THREE DAYS BEFORE THE DATE FOR EACH CLASS.

ISD ENROLLMENT APPLICATION
(FOR ALL COURSES)

PLEASE COMPLETE THE FOLLOWING APPLICATION AND RETURN
TO INFORMATION SERVICES DIVISION

COURSE: _____

DATE: _____

STUDENT: _____

AGENCY/DIVISION: _____

MAILING ADDRESS: _____

PHONE: _____

ARE YOU AN ISD SUBSCRIBER?: _____

ISD BILLING NUMBER: _____

SOC SEC NO (FOR P/P/P): _____

AUTHORIZED SIGNATURE: _____

HAVE YOU MET THE PREREQUISITES FOR THIS COURSE? PLEASE
EXPLAIN GIVING JOB EXPERIENCE OR CLASS WHEN APPLICABLE

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